What is *Pitaria ida* Tegland?

BY

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(1 Plate)

Among the more enigmatic of the alleged members of the west American mollusk fauna has been the bivalve, *Pitaria ida* Tegland, 1928, described from unmatched valves labeled as coming from Sitka, southern Alaska. Since its description, this taxon has been discussed briefly by several workers; it forms the basis on which the venerid genus *Pitar* has been cited as occurring in the northern, cold-temperate region of the eastern Pacific. Subsequent collecting, however, has failed to turn up additional specimens, even in the comparatively well-sampled area around Sitka. I have been unable to locate specimens in major institutional collections, and inquiry among west coast workers has produced no other records. In connection with a more general study of Neogene marine faunas of the northeastern Pacific region, I have examined the type material of *Pitaria ida* in the Museum of Paleontology, University of California, Berkeley. I also located, in the same collection, the missing opposite valve of the holotype. The strong resemblance of this material to an extra-limital species leads me to believe that the type locality is erroneous and that the species does not occur in west American waters.

"*Pitaria ida* Tegland"

(Figures *1* to *6*, *12*)

Pitaria ida Tegland, 1928: 4 - 6; plt. 1, figs. 1 - 4. Woodring, 1938: 55.

Pitaria (Katherinella) ida Tegland, Tegland, 1929: 283 - 284; plt. 22, figs. 7 - 10

Pitar ida (Tegland), Keen, 1937: 24. Burch, 1944: 7 - 8. LaRocque, 1953: 67

Type Material: Holotype, a left valve, University of California Museum of Paleontology No. 31526; paratype, a right valve, UCMP No. 31527.

Original Description: "Left valve: Shell thin, chalky, surface finely striated and roughened by growth lines and bearing remnants of a thin brown epidermis; outline regularly ovate, beak small, anterior and sharply recurved; lunule comparatively large, not depressed, clearly outlined by incised line. Hinge plate normal, with low sharp lamella close to posterior dorsal margin, two well developed cardinal teeth joined in an arch beneath the beak, posterior tooth heavy, anterior thin; anterior lateral narrow, pointed, high, slightly excavate ventrally, placed close to ventral margin of plate. Pallial sinus triangular, reaching forward toward center of the valve. Length 47.5 mm., height 39.2 mm.

"Right valve: Shell smaller and a little more elongate than type, with practically all of the epidermis remaining, otherwise with general description the same. Hinge with long bifid posterior cardinal tooth, middle cardinal free and faintly grooved; anterior cardinal short, thin and connecting by an arch with the posterior cardinal; anterior socket narrow and deep to receive anterior lateral of left valve. Length 43.4 mm., height 33.6 mm." (Tegland, 1928: 4 - 5).

Discussion: Tegland described *Pitaria ida* from a right and a left valve, not belonging to the same individual, which she found in the invertebrate collections of the University of California Museum of Paleontology. A Harriman Expedition label gives the locality as Sitka, Alaska. In spite of the disparity in the shape of the two valves, Tegland stated that there was "no doubt" as to their specific identity and repeated this comment in 1929. She further stated (1928), "Because *Pitaria* has not hitherto been recorded from any West Coast station so far north the validity of the association of specimens and label has been questioned." As evidence supporting the validity of the locality label, she cited Paul Bartsch's opinion (*in litt.*) that the texture of the shell indicated a northern habitat and her belief that the species belonged to the same subgenus as certain fossil forms from the Oligocene and Miocene of Washington.

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Some months after proposing the species, TEGLAND (1929) assigned *Pitaria ida* to the newly erected subgenus *Katherinella* (type species, *Callocallista*[2] *arnoldi* Weaver, 1916), again citing the apparent congruence of its Alaskan station with the presence of similar fossil species in northwest America.

The generic name *Pitaria* Dall, 1902, which was in general use at the time Tegland was writing, is now considered an unjustified emendation of *Pitar* Römer, 1857 (STEWART, 1930: 233). KEEN (1937) cited *P. ida* in the genus *Pitar*.

WOODRING (1938) pointed out that the strong anterior lateral tooth of *Pitaria ida* indicated that it is not a species of *Katherinella*. BURCH (1944) quoted the opinions of several workers concerning the gender of *Pitar*, and the suggestion that the species name be spelled "*idae*"; this would, of course, be an invalid emendation. Finally, LA ROCQUE (1953) listed *Pitar ida* among the marine mollusks of Canada and stated that there was some doubt concerning the type locality of the species. It should be noted that none of these authors reported seeing additional material of *P. ida* to confirm its presence in the west American fauna.

The evidence which TEGLAND (1928, 1929) offered to support the contention that the type material of *Pitaria ida* came from Sitka is weak at best. Among Pitarinae, a chalky shell texture is also found among species inhabiting low latitudes. *Pitar (Pitar) rostratus* (Koch in Philippi, 1844) from Brazil and *Callocardia (Agriopoma) texasiana* (Dall, 1892) from the Gulf of Mexico being examples. The species which Tegland cited as congeneric with *P. ida* – *Katherinella arnoldi* (Weaver), *K. arnoldi ethringtoni* (Tegland, 1929), and *K. californica* (Clark, 1918) – and *Katherinella angustifrons* (Conrad, 1849), which was assigned to the genus by MOORE (1963), occur in faunas interpreted as occupying substantially warmer marine climates than that of southern Alaska today (DURHAM, 1950; ADDICOTT, 1969; KANNO, 1971). Although *Katherinella* is common in the Miocene, there are no known Pliocene or Pleistocene species in the region which might qualify as connecting links between these species and *P. ida*. Insofar as the fossil record indicates (WOODRING, 1938; STENZEL, KRAUSE & TWINING, 1957; MOORE, 1963), the evolutionary trend of *Katherinella* was toward suppression of lateral hinge teeth.

As WOODRING (1938) noted, the strong lateral tooth of *Pitar ida* excludes it from *Katherinella*; the hinge (Figures *2*, *5*) demonstrates that it belongs to *Pitar, sensu stricto*. Like *Pitar (Pitar) tumens* (Gmelin, 1791), type species of the genus, *P. ida* has a projecting, peglike anterior lateral tooth in the left valve, slightly elongate anteroposteriorly, its long axis diverging sharply from that of the nearest cardinal tooth. The lateral tooth projects farther from the hinge plate than any of the cardinal teeth. This structure contrasts to the anterior lamella of *Katherinella arnoldi*, well-figured by MOORE (1963: plt. 25, fig. 4), which is nearly parallel to the neighboring cardinal tooth and projects less than any of the cardinals.

The holotype and paratype of *Pitaria ida* and the holotype's opposite valve from the UCMP collection compare favorably with specimens of *Pitar (Pitar) morrhuanus* ("Linsley" Gould, 1848)[3] from the northwest Atlantic

[2] "*Callocallista* A. Adams," WEAVER (1916:40) is apparently a misspelling of *Callocardia* Adams, 1864. FRIZZELL (1936) accepted *Callocallista* as a validly proposed genus, with *C. arnoldi* as type species and therefore a senior synonym of *Katherinella* Tegland, 1929. It is preferable to regard *Callocallista* as an incorrect subsequent spelling (ICZN Art. 33(b).) and unavailable; it was so treated by KEEN (1969) in the Treatise on Invertebrate Paleontology. WEAVER himself (1942 [1943]) later used *Katherinella* for this taxonomic unit. *Katherinella* has frequently been accorded generic status (WOODRING, 1938; STENZEL, KRAUSE & TWINING, 1957; MOORE, 1963)

[3] *Cytherea morrhuana* of Linsley (1845) is a *nomen nudum*. Authorship for this species-name dates from a brief synonymic notation by GOULD (1848) which would not ordinarily suffice to make a name available. Attribution of this date and authorship has the sanction of long usage (cf. PALMER [1927-1929]), however, and the citation probably qualifies as available under the provisions of ICZN Article 11(d). The earliest author to use the specific epithet in conjunction with descriptive material seems to have been DALL (1902; as "*Callocardia (Agriopoma) morrhuana* Linsley, 1848")

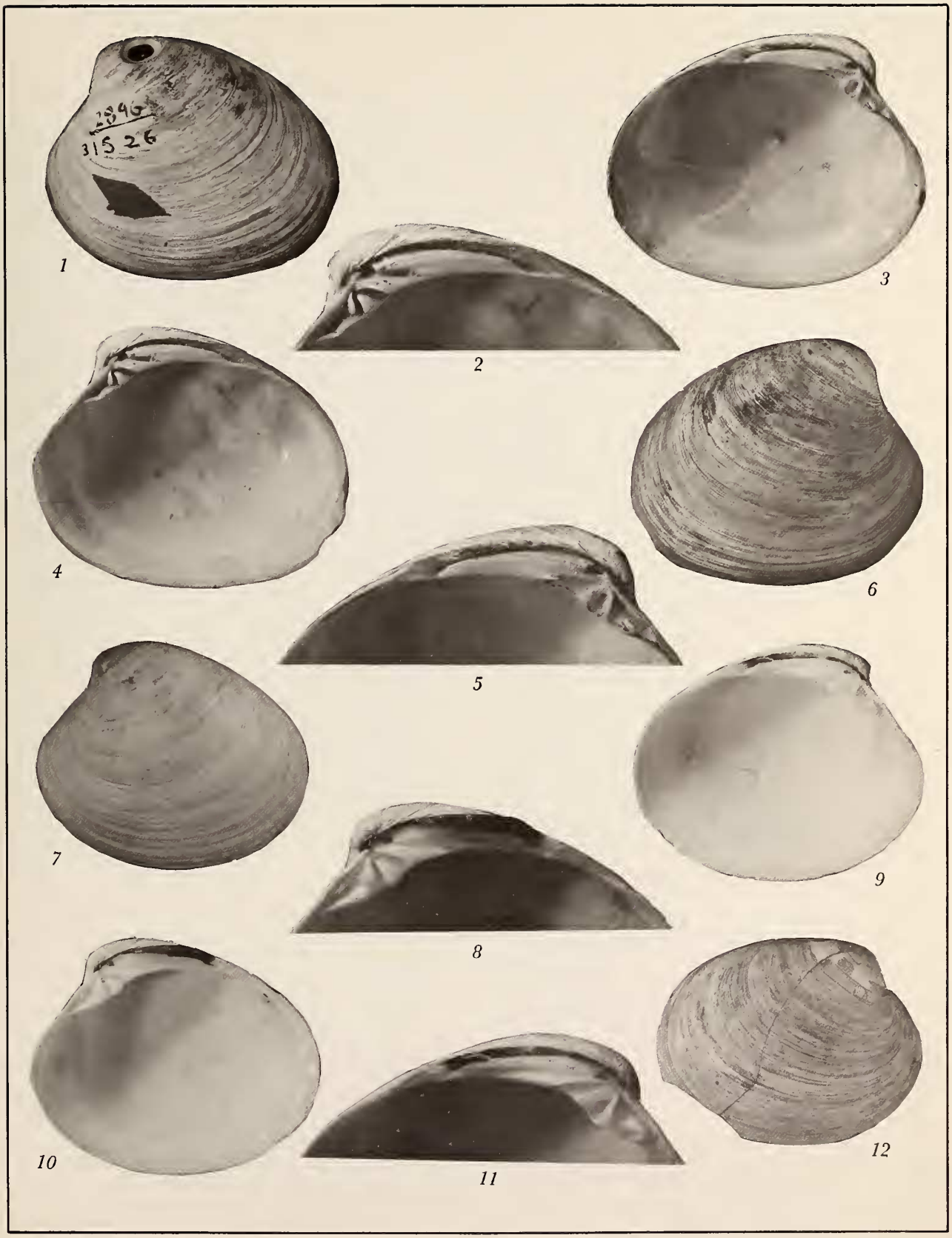
Explanation of Figures *1* to *12*

Figures *1*, *3*, *5*: *Pitaria ida* Tegland. Holotype, UCMP No. 31526; exterior and interior views and detail of hinge

Figures *2*, *4*, *6*: *Pitaria ida* Tegland. Opposite valve of holotype. UCMP No. 14159; detail of hinge and exterior and interior views

Figures *7 - 11*: *Pitar (Pitar) morrhuanus* ("Linsley" Gould). CASG No. 54975; Lynn Beach, Lynn, Massachusetts. Left valve: exterior and interior views and detail of hinge. Right valve: interior view and detail of hinge

Figure *12*: *Pitaria ida* Tegland. Paratype, UCMP No. 31527; exterior view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